

Short Memoirs for the Natural Experimental History of Mineral Waters: by the Honourable Robert Boyle, Fellow of the Royal Society. London. 1684; Octavo.

THE Author divides this Tract into six Sections ; the first whereof is only introductory, wherein he tells us, that although the best warrant we can have for the use of any of these waters, is the long and sufficient Experience of their good and bad effects, yet since the advice of Physicians to their Patients in this case is a thing of so great consequence, the circumstances so many and so necessary to be considered, and since the Curiosity of men hath been little greater, then to inquire only what Colour the *Mineral water* will strike with Galls or Oaken leaves, and what Kind and Quantity of Salt will remain after evaporation ; upon these and such like considerations our *Honourable Author* hath thought fit to communicate these his *Memoirs* in order to a more full and Methodicall *History of Mineral waters* ; to the drawing up of which, he thinks these 3 following Observations necessary.

First that a man ought to take notice of those particulars that relate to it, whilst tis yet under ground, or in it's native receptacles.

Secondly to examine the properties and other qualities of it, when 'tis drawn up by men at the spring head or other receptacle.

Thirdly he is to consider the operation and Effects of it upon Humane bodies whether sick or sound, &c.

To the first of these he has subjoyn'd a set of Titles for
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the first part of the proposed work. He hath given likewise a Scheme of Titles for the second part : But because the second part is that which he mainly designed, he referr'd to it two other Sections *viz.* the fourth and fifth. In the first of which he gives Experimental Remarks upon the way of Examining *Mineral waters* by the help of Galls ; the use of which he approves of rather in powder than infusion ; but, for the more effectual course of either way, gives this caution, that the *Tincture* be not long drawn, nor the Galls themselves grown stale. He cannot by any means think Galls (or the Infusion thereof,) to be of that use and certainty, that it is Vugarly presum'd to have, in as much as it only discovers a liquor to be or not to be, either of a *Vitriolate* or *Ferruginous* nature ; for there are divers metalline Ores and other Mineral bodies which, not participating of Iron, will not by this means be discover'd, and yet may at the same time strongly impregnate the water proposed ; the decoction of *Arsenic* for example, changes no more upon Galls, than would common water. Moreover unless Iron be the only predominant Mineral in the *Vitriolated* water, the infusion of Galls does not answer it, for upon a strong Solution of *Roman Vitriol* (where Copper is the only, or at least the predominant metal) the infusion, or Tincture of Galls afforded neither a black nor blackish colour, only a thick and muddy one, that was not so much as purplish. And though the *Author* be, for certain reasons unwilling to set down a way to discover in a trice both these *Vitriols* without any liquor or tangible body, yet he has been so candid as to subjoyn as a *succedaneum*, the way of making a liquor that will presently turn black with a solution of *Martial* or *Cupreous Vitriol*.

In his fifth Section (consisting of Annotations and Notes on other Articles of the same second part) he observes, and brings his Ocular demonstration for the life

& motion of those creatures found in water wherein pepper has been infus'd. He observes likewise that the freshness and quickness of such *Ferruginous waters* as are lighter then common water, are much lost in the removal. Neither will the waters themselves have those Effects they would at the spring head, or before their removal. He dislikes the division of *Mineral waters* into *Acidulae* & *Thermae*, having by several tryalls found, that there is not a manifest Acidity in those waters that are not Sulphureous or hot; supposing also, that they may in all probability have spent the Acidity they had, upon the Iron Ore, which they dissolv'd in their passages; neither does he think any of our purgative waters contain a Salt that belongs to any one known sort of Salts; but is either of a sort for which we have yet no name, or else is of a compounded Nature, since two bodies, neither of which is *Cathartick*, may by a change of texture compose a third body briskly purgative; of which he has given an Example; he adds that (as far as he has observ'd,) those *Ferruginous waters*, that are not heavier then common water, and in most drinkers prove but *Diuretick*, afford very little *Caput mortuum*, or dry substance, upon the total evaporation of their liquor, whereas Mineral waters that are purging, and manifestly more ponderous in *specie* then common water, leave a considerable Quantity of Residence. ex. gr. A pound of *Barnet* water (which is purgative,) yielded one dram of white powder. A pound of *Tunbridge* water yielded *Cap: mort.* about gr. i. Twenty five ounces of *German spaw* water gave but---- gr. iſſ. Neither need so small a Quantity seem inconsiderable, since upon tryall one part of *Murcaste* did communicate a Tincture to 61440 parts of the infusion of Galls; and upon Computation one grain of *Vitriolate* substance might impregnate 6000 times its weight of common water, so as to make it fit to produce with Galls a purple colour. To all which lastly is sub-

joyn'd the fixth Section, which the *Author* himself tells us, consists only of a set of Articles referrable to the medicinal use of Mineral waters.

ERRATA.

P Ag. 1053, lin. 32. for *fierry* read *fiery*. lin. penult. for *pag.* read *pag.* pag. 1055, lin. 35. 'read [Apr. 23. cap. 2.] pag. 1056, lin. 23. read [acquaints us.] pag. 1060, lin. 16, after *Rome* add [To which add that *Joachimus Fortius* (vid. *Joach. Fortii Experiment : Lib.*) & *Jacobus Weckerus* (vid. *Illius de Secretis Lib. 3. cap. 2.*) both affirm upon their own Experiment and knowledge that it may be formed into the likeness of a Wick, that will administer to the flame. and not be wasted.]

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